

REMARKS

The Examiner is respectfully requested to enter this Reply After Final in that it raises no new issues. Alternatively, the Examiner is respectfully requested to enter this Reply After Final in that it places the application in better form for Appeal.

Amendment to the Specification

Table 1 is amended such that "Sample B" now reads as "Sample A". This amendment is presented to correct a clear typographical error. See page 86, line 4 from the bottom of the page through page 87, line 8 of the specification. As shown in Table 1, comparative Sample A has low sensitivity and poor storage. Thus, the amendment to Table 1 does not present new matter.

Status of the Claims

Claims 1-15 and 17-18 are pending. Claim 16 has been canceled. No claims have been added. Claim 1 has been amended to incorporate the subject matter of claim 16 to define the amount of photosensitive silver halide in the silver supplying layer. No new matter has been added by the claim amendment. In addition, no new issues have been raised by the claim amendment. As such, Applicants respectfully request that the amendments be entered.

Rejection under 35 USC 103(a)

The Examiner maintains the rejection of claims 1-17 as obvious over Toya et al. USP 5,656,419 (Toya '419) in view of Murray USP 5,705,324 (Murray '324) and Suzuki USP 6,060,228 (Suzuki '228). Applicants traverse the rejection and respectfully request the withdrawal thereof.

Present Invention

The present invention is directed to a heat developable image recording material that comprises two **separate** layers: (1) a silver supplying layer that has 10 wt.% or less of the coated amount of the photosensitive silver halide in the photosensitive layer; and (2) a photosensitive layer containing photosensitive silver halide. The material also contains an electron transferring agent.

Toya '419

Toya '419 discloses a heat developable photographic material that has a light sensitive layer comprising light sensitive silver halide, organic silver salt and a reducing agent. All of these components are in **one layer** of the material as opposed to the present invention where there are **two separate layers**, the silver supplying layer and the photosensitive layer.

Moreover, contrary to the Examiner's calculations in the Office Action, Applicants submit that it is not possible to

determine the coated amount of the Toya '419 silver halide in a separate silver supplying layer in terms of the amount recited in claim 1, (e.g., "10 wt.% or less of a coated amount of photosensitive silver halide in the photosensitive layer.") More specifically, Example 1 of Toya '419 only has one layer which is both photosensitive and silver supplying. Thus, the proper comparison between the amount of silver halide in a separate silver supplying layer with the amount of silver halide in the photosensitive layer cannot be made.

Toya '419 does not disclose a separate silver supplying layer. As such, Applicants submit that the Examiner's calculations are impossible to verify. Applicants highly doubt that the Examiner is able to make an accurate determination of the amount of silver halide in a fictitious silver supplying layer as compared to the amount in a fictitious photosensitive layer.

The silver nitrate of 365g (2.15 mole) in Example 1 of Toya '419 is used to produce organic silver salt and silver halide. The maximum amount of silver bromide is determined by the amount of N-bromosuccinimide which is 9.7g (0.05 mole). On a stoichiometric analysis, the maximum amount of organic silver salt is 2.10 mole since stearic acid is used at 131g (0.46 mole) and behenic acid is used at 635g (1.86 mole). Clearly, it is impossible to compare the single layer of Toya '419 to the separate layers of the invention.

For the above stated reasons, Applicants submit that the Examiner has failed to make a prima facie case of obviousness and the rejection should be withdrawn because the primary reference does not disclose the two separate layers of the present invention. Thus, Toya '419 teaches away from the present invention. Also, see column 17, lines 21-42, especially lines 37-39, which states, "This redox reaction is accelerated by the catalytic action of a latent image produced by exposure." Please see also the description at column 20, lines 12-19, especially lines 18-19, which states "In this process, the silver halide is disposed adjacent to the reducible silver source." Since Toya '419 discloses a single image-forming layer comprising a photosensitive silver halide and silver-supplying organic silver salt adjacent to each other, Toya '419 teaches away from a silver-supplying organic silver salt layer and a separate photosensitive layer in which the photosensitive silver halide is not disposed adjacent to the reducible silver source of organic silver salt.

Thus, Toya '419 in combination with the secondary references does not disclose or suggest all the elements of the present invention. The secondary references are relied on for disclosures concerning the electron transfer agent. None of the secondary references disclose a material with a photosensitive layer and a separate silver supplying layer.

Suzuki '228

Suzuki '228 discloses an image-forming layer comprising a photosensitive silver halide and organic silver salt. Please note the description in column 28, lines 3-27, especially lines 10-13, "Thereafter, the dispersion is mixed with an aqueous solution of a photosensitive silver salt, thereby preparing a photosensitive image forming medium coating solution." In the Example, an organic silver salt is mixed with a photosensitive silver salt in column 67-69. Suzuki discloses that compounds of formula (3), (4) and (5) of Suzuki '228 are contrast enhancers. Suzuki does not disclose or suggest that these compounds of formula (3), (4) and (5) are electron-transfer agents in a heat-developable image-recording material comprising a silver-supplying organic silver salt layer and a separate photosensitive silver halide layer.

Murray '324

Murray '324 discloses a photothermographic element which uses a photosensitive silver halide in catalytic proximity to a organic silver salt. Please note the description in column 10, lines 51-60, especially lines 56-60 and column 13, lines 55-63, especially lines 55-60.

Please note that IS-01, 02 and 03 of Murray '324 are co-developers and not electron-transfer agents. Murray does not

disclose an electron transfer agent in a recording material in which a photosensitive silver halide layer and a organic silver salt layer are separate.

**Comparative Results**

Assuming *arguendo* that the Examiner has made a *prima facie* case of obviousness, Applicants submit that the present invention has unexpected superior results over the material of Toya '419 even if the electron transferring agent of the secondary references are relied on.

Comparative example A in the specification has a coated layer comprising an organic silver salt and a photosensitive silver halide within the same layer as disclosed in Toya '419. Please see Table 1 in the specification where it is reported that comparative example A has a low sensitivity and poor storage capability. (Comparative Sample B is amended to "A"). The one layer material is not capable of the higher quality sensitivity and long self-life as with the present invention. As such, the present invention has unexpected superior results over Toya '419 even with the inclusion of the electron transfer agent of the secondary references.

Conclusion

As Applicants have addressed and overcome all rejections in the Office Action, Applicants respectfully request that the rejections be withdrawn and that the claims be allowed.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Kecia Reynolds (Reg. No. 47,021) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

Attached hereto is a marked-up version of the changes made to the application by this Amendment.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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Attachment: Version with Markings to Show Changes Made

(Rev. 02/20/02)

VERSION WITH MARKINGS TO SHOW CHANGES MADEIN THE SPECIFICATION

Page 87, Table 1 is amended as follows:

TABLE 1

Sample name	Storage Conditions	Fog	S (0.3)	G
Sample 1	Initial value	0.12	+0.25	15.3
	50°C, 40%RH, 3 days	0.12	+0.25	15.7
	50°C, 75%RH, 3 days	0.14	+0.29	17.2
Comparative Sample A [B]	Initial value	0.14	±0 (Reference)	17.1
	50°C, 40%RH, 3 days	0.18	+0.02	16.6
	50°C, 75%RH, 3 days	0.33	-0.14	12.8

IN THE CLAIMS:

Claim 16 has been canceled.

The claims have been amended as follows:

1. (Amended) A heat-developable image-recording material comprising on a support:

a silver-supplying layer containing an organic silver salt, a reducing agent, an organic binder and [substantially no] photosensitive silver halide in an amount that is 10 wt% or less of a coated amount of photosensitive silver halide in the photosensitive layer; and

a separate photosensitive layer containing a  
photosensitive silver halide;

the heat-developable image-recording material further  
containing an electron-transfer agent.